

Docket Number: 037003-0280727

Client Reference: 2001-30-0080CP1



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of

GARY R. BRASLAWSKY et al.

Group Art Unit: 1642

Application No.: 10/058,069

Examiner: David J. Blanchard

Filed: January 29, 2002

Confirmation No.: 2502

For: ENGINEERED TETRAVALENT ANTIBODIES AND METHODS OF USE

June 9, 2004

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REPLY TO REQUIREMENT FOR RESTRICTION AND ELECTION

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is in response to the requirement for restriction and election mailed April 9, 2004, and is timely filed, as it is accompanied by a petition for an extension of time to file in the first month and the requisite fee.

ELECTION

In response to the requirement for restriction and election mailed April 9, 2004, the applicants elect **with traverse** Group IV, claims 29-34, 36-40, and 20-28, directed to a dimeric antibody that binds a tumor-associated antigen. In response to the requirement that the applicants elect a specific target antigen from the list (A)-(V), the applicants elect the TAG-72 antigen.

The applicants respectfully traverse the requirement that the dimeric antibodies of the elected invention be restricted to antibodies that bind to a specific antigen. The present application describes structural modifications of the constant portions of antibody molecules that result in formation of stable tetravalent antibody dimers comprising monomeric antibody subunits that are non-covalently associated. The present application also demonstrates that antibody dimers comprising non-covalently associated antibody subunits according to the invention have the high binding affinities of the unmodified antibodies. The dimeric antibodies of the present invention are produced without steps involving chemical reduction and/or the use of chemical cross-linking agents. Furthermore, the dimeric antibodies of the present invention display a relatively short circulatory half-life *in vivo*. The latter property is desirable, for example, to reduce myelotoxicity when performing radioimmunoimaging and/or radioimmunotherapy.

The Manual of Patenting Examining Procedure (§ 803.2) states that [i]f the members of a Markush group are sufficiently few in number or so closely related that search and examination of the entire claim can be made without serious burden, the examiner must examine all of the members of the Markush group in the claim on the merits, even though they are directed to independent and distinct inventions. The structural features that distinguish the dimeric antibodies of the present invention from known dimeric antibodies stem from modifications of the constant portion of the antibody. These structural modifications are independent of the antibodies' antigen specificity and can be regarded as generic in character. In examining the dimeric antibodies of the present invention, *e.g.*, with respect to patentability under 35 U.S.C. §103(a), the examiner is reasonably expected to consider the available prior art relating to making and using tetravalent antibody dimers **without narrowing the search to**

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antibody dimers having a specific antigen-specificity. The burden on the examiner to examine the full Markush group consisting of the tetravalent antibody dimers of the present invention would therefore be no greater than the burden on the examiner when the invention is considered to comprise antibodies with specificity for a particular antigen. Accordingly, the applicants respectfully request that the requirement that the examined invention be restricted to dimeric antibodies having a single antigen specificity be withdrawn. The applicants respectfully request that examination proceed with consideration of the dimeric antibodies of both Groups III and IV, without narrowing to a specific antibody from the list (A) to (V).

If the examiner identifies any points that he feels may be best resolved through a personal or telephone interview, he is kindly requested to contact the undersigned attorney at the telephone number listed below.

Respectfully Submitted,

Charles C. P. Morris
Reg. No. 43,381,

for

Thomas A. Cawley, Jr., Ph.D.
Registration Number 40,944

Date: June 9, 2004

PILLSBURY WINTHROP LLP
Telephone: (703) 905-2000
Facsimile: (703) 905-2500
P.O. Box 10500
McLean, VA 22102